# TOTAL NATURAL ABRASIVES STATISTICS
## By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
### [All values in metric tons (t) unless otherwise noted]
### Last modification: February 18, 2003

| Year | Production | Shipments | Imports | Exports | Apparent consumption | Unit value ($/t) | Unit value (98$/t) | World production |
|------|-----------|-----------|---------|---------|---------------------|------------------|--------------------|------------------|
| 1900 | 4,410 | 3,910 | 11,900 | | 16,300 | 26 | 510 | |
| 1901 | 3,910 | 3,910 | 13,100 | | 17,000 | 37 | 720 | |
| 1902 | 3,860 | 3,860 | 8,030 | | 11,900 | 27 | 510 | |
| 1903 | 4,120 | 4,120 | 12,700 | | 16,800 | 16 | 290 | |
| 1904 | 17,700 | 1,740 | 8,200 | | 25,900 | 13 | 240 | |
| 1905 | 26,800 | 1,930 | 12,700 | | 39,400 | 13 | 240 | |
| 1906 | 1,050 | 1,050 | 16,200 | | 17,200 | 42 | 760 | |
| 1907 | 970 | 970 | 13,400 | | 14,400 | 13 | 230 | |
| 1908 | 607 | 607 | 9,000 | | 9,610 | 372 | 6,700 | |
| 1909 | 1,430 | 1,430 | 11,200 | | 12,600 | 162 | 2,900 | |
| 1910 | 933 | 933 | 30,500 | | 31,400 | 261 | 4,600 | |
| 1911 | 598 | 598 | 11,600 | | 12,200 | 371 | 6,500 | |
| 1912 | 900 | 900 | 17,600 | | 18,500 | 265 | 4,500 | |
| 1913 | 19,700 | 19,700 | 18,500 | | 38,300 | 22 | 362 | 116,000 |
| 1914 | 59,900 | 59,900 | 13,900 | | 73,700 | 17 | 277 | 111,000 |
| 1915 | 69,300 | 69,300 | 9,180 | | 78,600 | 13 | 210 | 96,400 |
| 1916 | 105,000 | 105,000 | 8,510 | | 114,000 | 12 | 179 | 131,000 |
| 1917 | 105,000 | 104,000 | 2,070 | | 107,000 | 20 | 255 | 135,000 |
| 1918 | 99,100 | 99,100 | 8,660 | | 108,000 | 24 | 259 | 123,000 |
| 1919 | 76,800 | 76,800 | 11,800 | | 88,600 | 24 | 226 | 129,000 |
| 1920 | 98,100 | 98,100 | 33,300 | | 131,000 | 27 | 220 | 152,000 |
| 1921 | 37,000 | 37,000 | 16,100 | | 53,100 | 44 | 401 | 104,000 |
| 1922 | 56,600 | 56,600 | 20,100 | | 76,700 | 28 | 272 | 122,000 |
| 1923 | 74,100 | 74,100 | 26,200 | | 100,000 | 32 | 305 | 148,000 |
| 1924 | 65,700 | 65,700 | 28,700 | | 94,400 | 36 | 343 | 158,000 |
| 1925 | 65,600 | 65,600 | 26,200 | | 91,900 | 38 | 354 | 165,000 |
| 1926 | 70,800 | 70,800 | 26,900 | | 97,700 | 38 | 350 | 149,000 |
| 1927 | 57,100 | 57,100 | 23,000 | | 80,100 | 40 | 375 | 57,100 |
| 1928 | 68,800 | 68,800 | 25,100 | | 93,900 | 35 | 334 | 78,800 |
| 1929 | 65,400 | 65,400 | 27,600 | | 93,100 | 32 | 305 | 65,400 |
| 1930 | 50,600 | 50,600 | 19,100 | | 69,600 | 29 | 283 | 50,600 |
| 1931 | 34,800 | 34,800 | 13,000 | | 47,700 | 22 | 236 | 34,800 |
| 1932 | 21,800 | 21,800 | 6,500 | | 28,300 | 26 | 309 | 21,800 |
| 1933 | 36,700 | 36,700 | 10,100 | | 46,600 | 26 | 326 | 36,700 |
| 1934 | 30,600 | 30,600 | 11,700 | | 42,300 | 29 | 353 | 30,600 |
| 1935 | 38,600 | 38,600 | 19,100 | | 57,700 | 26 | 309 | 38,600 |
| 1936 | 38,800 | 38,800 | 20,500 | | 59,300 | 26 | 305 | 38,800 |
| 1937 | 45,900 | 45,900 | 20,900 | | 66,800 | 25 | 283 | 48,200 |
| 1938 | 26,200 | 26,200 | 10,900 | | 37,100 | 27 | 312 | 27,800 |
| 1939 | 41,100 | 41,100 | 15,800 | | 56,900 | 25 | 293 | 43,500 |
| 1940 | 40,400 | 40,400 | 11,300 | | 51,800 | 22 | 256 | 44,400 |
| 1941 | 60,500 | 60,500 | 7,590 | | 68,100 | 21 | 233 | 66,700 |
| 1942 | 50,400 | 50,400 | 5,400 | 19,000 | 39,700 | 23 | 230 | 57,400 |
| 1943 | 42,400 | 42,400 | 6,080 | 19,000 | 30,400 | 24 | 226 | 48,000 |
| 1944 | 40,700 | 40,700 | 6,810 | 22,800 | 35,800 | 23 | 213 | 46,400 |
| 1945 | 42,400 | 42,400 | 7,200 | 27,100 | 37,800 | 24 | 217 | 52,400 |
| 1946 | 48,900 | 48,900 | 12,800 | 27,200 | 47,700 | 26 | 217 | 56,900 |
| 1947 | 53,000 | 53,000 | 15,700 | 34,300 | 52,600 | 28 | 205 | 61,000 |
| 1948 | 41,300 | 41,300 | 14,800 | 28,800 | 45,900 | 32 | 216 | 49,300 |
| 1949 | 34,900 | 34,900 | 10,200 | 639 | 44,600 | 32 | 219 | 43,900 |
| 1950 | 52,200 | 52,200 | 36,700 | 466 | 88,500 | 31 | 210 | 61,300 |

# TOTAL NATURAL ABRASIVES STATISTICS
## By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
### [All values in metric tons (t) unless otherwise noted]
### Last modification: February 18, 2003

| Year | Production | Shipments | Imports | Exports | Apparent consumption | Unit value ($/t) | Unit value (98$/t) | World production |
|------|-----------|-----------|---------|---------|----------------------|------------------|--------------------|-----------------|
| 1951 | 53,700 | 53,700 | 23,300 | 610 | 76,200 | 33 | 207 | 71,000 |
| 1952 | 49,300 | 49,300 | 13,000 | 33,900 | 60,800 | 32 | 197 | 67,500 |
| 1953 | 48,000 | 48,000 | 11,500 | 52,400 | 60,000 | 34 | 208 | 57,100 |
| 1954 | 52,300 | 52,300 | 6,300 | 49,200 | 60,700 | 37 | 224 | 61,300 |
| 1955 | 59,300 | 56,800 | 9,690 | 61,600 | 72,200 | 11 | 67 | 73,600 |
| 1956 | 57,500 | 55,900 | 12,600 | 66,900 | 74,000 | 14 | 84 | 79,400 |
| 1957 | 62,100 | 56,300 | 16,100 | 68,300 | 84,300 | 11 | 64 | 71,200 |
| 1958 | 53,300 | 48,900 | 12,700 | 12,300 | 73,400 | 12 | 68 | 63,300 |
| 1959 | 59,100 | 54,300 | 17,100 | 11,400 | 84,500 | 12 | 67 | 66,400 |
| 1960 | 62,100 | 56,800 | 15,800 | 10,900 | 87,800 | 10 | 55 | 70,200 |
| 1961 | 57,400 | 52,000 | 14,400 | 11,600 | 83,200 | 10 | 55 | 64,700 |
| 1962 | 62,300 | 54,100 | 23,100 | 10,800 | 91,200 | 9 | 49 | 66,000 |
| 1963 | 69,000 | 58,200 | 29,400 | 12,400 | 86,100 | 9 | 48 | 75,100 |
| 1964 | 69,900 | 64,300 | 18,700 | 13,800 | 74,800 | 11 | 58 | 78,100 |
| 1965 | 77,500 | 71,800 | 18,400 | 11,900 | 83,900 | 13 | 67 | 87,500 |
| 1966 | 73,500 | 68,700 | 39,000 | 14,900 | 97,700 | 14 | 70 | 83,500 |
| 1967 | 66,800 | 57,800 | 16,300 | 12,700 | 70,500 | 14 | 68 | 76,600 |
| 1968 | 80,400 | 67,700 | 35,400 | 18,400 | 97,500 | 18 | 84 | 87,000 |
| 1969 | 79,800 | 66,700 | 20,900 | 14,500 | 86,200 | 17 | 76 | 86,600 |
| 1970 | 64,600 | 58,100 | 13,600 | 15,500 | 70,900 | 18 | 76 | 71,900 |
| 1971 | 71,700 | 62,600 | 10,900 | 9,590 | 81,500 | 16 | 64 | 165,000 |
| 1972 | 85,300 | 70,900 | 4,540 | 10,000 | 91,300 | 17 | 66 | 180,000 |
| 1973 | 97,900 | 84,700 | 12,700 | 16,200 | 105,000 | 16 | 59 | 205,000 |
| 1974 | 82,300 | 80,900 | 18,100 | 18,000 | 89,900 | 16 | 53 | 248,000 |
| 1975 | 78,900 | 64,500 | 6,350 | 9,690 | 85,500 | 21 | 64 | 159,000 |
| 1976 | 115,000 | 106,000 | 7,260 | 15,300 | 123,000 | 19 | 54 | 199,000 |
| 1977 | 116,000 | 107,000 | 12,700 | 17,600 | 123,000 | 35 | 94 | 196,000 |
| 1978 | 126,000 | 104,000 | 14,400 | 8,690 | 131,000 | 25 | 63 | 151,000 |
| 1979 | 126,000 | 106,000 | 19,900 | 4,460 | 141,000 | 22 | 49 | 159,000 |
| 1980 | 111,000 | 90,600 | 10,800 | 14,400 | 118,000 | 24 | 48 | 189,000 |
| 1981 | 99,600 | 83,400 | 12,300 | 16,200 | 104,000 | 17 | 31 | 171,000 |
| 1982 | 104,000 | 83,300 | 6,410 | 4,730 | 105,000 | 12 | 20 | 160,000 |
| 1983 | 102,000 | 94,200 | 8,920 | 4,450 | 106,000 | 11 | 18 | 146,000 |
| 1984 | 114,000 | 97,500 | 25,200 | 1,820 | 138,000 | 13 | 20 | 151,000 |
| 1985 | 110,000 | 99,100 | 28,700 | 884 | 138,000 | 12 | 18 | 142,000 |
| 1986 | 110,000 | 101,000 | 9,400 | 1,140 | 118,000 | 13 | 19 | 127,000 |
| 1987 | 107,000 | 98,400 | 16,800 | 1,520 | 122,000 | 14 | 20 | 117,000 |
| 1988 | 103,000 | 95,300 | 32,200 | 1,580 | 133,000 | 14 | 19 | 129,000 |
| 1989 | 106,000 | 89,600 | 24,000 | 12,400 | 117,000 | 25 | 33 | 136,000 |
| 1990 | 98,100 | 81,100 | 38,000 | 13,100 | 123,000 | 35 | 44 | 98,100 |
| 1991 | 90,900 | 73,900 | 30,000 | 12,600 | 108,000 | 38 | 46 | 126,000 |
| 1992 | 86,700 | 76,500 | 41,000 | 17,100 | 111,000 | 40 | 47 | 117,000 |
| 1993 | 94,500 | 78,600 | 57,000 | 13,100 | 138,000 | 40 | 45 | 124,000 |
| 1994 | 89,000 | 82,800 | | | 89,000 | 41 | 45 | 89,000 |
| 1995 | 80,200 | 80,500 | | | 80,200 | 41 | 44 | 80,200 |
| 1996 | 98,900 | 80,000 | | | 98,900 | 44 | 46 | 98,900 |
| 1997 | 82,100 | 81,700 | | | 82,100 | 202 | 205 | 82,100 |
| 1998 | 80,200 | 80,000 | | | 80,200 | 213 | 213 | 80,200 |
| 1999 | 85,600 | 85,400 | | | 85,600 | 238 | 233 | 85,600 |
| 2000 | 72,600 | 72,300 | | | 72,600 | 221 | 209 | 72,600 |

| Year | Corundum production | Corundum and emery production | Emery production | Corundum and emery shipments | Emery shipments | Corundum imports | Corundum and emery imports | Emery imports | Corundum exports | Corundum and emery exports | Emery exports |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1900 | | 3,910 | | 3,910 | | | 11,900 | | | | |
| 1901 | | 3,910 | | 3,910 | | | 13,100 | | | | |
| 1902 | | 3,860 | | 3,860 | | | 8,030 | | | | |
| 1903 | | 4,120 | | 4,120 | | | 12,700 | | | | |
| 1904 | | 1,740 | | 1,740 | | | 8,200 | | | | |
| 1905 | | 1,930 | | 1,930 | | | 12,700 | | | | |
| 1906 | | 1,050 | | 1,050 | | | 16,200 | | | | |
| 1907 | | | 970 | | 970 | | 13,400 | | | | |
| 1908 | | | 607 | | 607 | | 9,000 | | | | |
| 1909 | | | 1,430 | | 1,430 | | 11,200 | | | | |
| 1910 | | | 933 | | 933 | | 30,500 | | | | |
| 1911 | | | 598 | | 598 | | 11,600 | | | | |
| 1912 | | | 900 | | 900 | | 17,600 | | | | |
| 1913 | | | 868 | | 868 | | 18,500 | | | | |
| 1914 | | | 440 | | 440 | | 13,900 | | | | |
| 1915 | | | 2,780 | | 2,780 | | 9,180 | | | | |
| 1916 | | | 13,900 | | 13,900 | | 8,510 | | | | |
| 1917 | 744 | | 15,500 | | 15,500 | | 2,070 | | | | |
| 1918 | | | 9,460 | | 9,460 | | 8,660 | | | | |
| 1919 | | | 2,360 | | 2,360 | | 11,800 | | | | |
| 1920 | | | 2,110 | | 2,110 | | 9,160 | | | | |
| 1921 | | | 277 | | 277 | | 6,950 | | | | |
| 1922 | | | 1,330 | | 1,330 | | 5,560 | | | | |
| 1923 | | | 2,070 | | 2,070 | | 11,700 | | | | |
| 1924 | | | 1,990 | | 1,990 | 3,020 | 50 | 6,600 | | | |
| 1925 | | | 698 | | 698 | 1,500 | 122 | 7,000 | | | |
| 1926 | | | 350 | | 350 | 4,910 | 394 | 4,310 | | | |
| 1927 | | | 459 | | 459 | 1,150 | 105 | 4,180 | | | |
| 1928 | | | 1,220 | | 1,220 | 1,420 | 154 | 4,920 | | | |
| 1929 | | | 838 | | 838 | 3,430 | 395 | 5,810 | | | |
| 1930 | | | 503 | | 503 | 2,740 | 272 | 3,860 | | | |
| 1931 | | | 464 | | 464 | 650 | 57 | 2,140 | | | |
| 1932 | | | 227 | | 227 | 171 | 10 | 611 | | | |
| 1933 | | | 958 | | 958 | 940 | 22 | 636 | | | |
| 1934 | | | 171 | | 171 | 1,980 | 42 | 3,110 | | | |

## CORUNDUM AND EMERY STATISTICS
### By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
**[All values in metric tons (t) unless otherwise noted]**
**Last modification: February 18, 2003**

| Year | Corundum production | Corundum and emery production | Emery production | Corundum and emery shipments | Emery shipments | Corundum imports | Corundum and emery imports | Emery imports | Corundum exports | Corundum and emery exports | Emery exports |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1935 | | | 160 | | 160 | 4,590 | 52 | 4,360 | | | |
| 1936 | | | 295 | | 295 | 4,350 | 177 | 5,640 | | | |
| 1937 | | | 290 | | 290 | 1,890 | 149 | 4,860 | | | |
| 1938 | | | 0 | | 0 | 1,900 | 30 | 433 | | | |
| 1939 | | | 694 | | 694 | 1,780 | 59 | 1,990 | | | |
| 1940 | | | 949 | | 949 | 2,650 | 61 | 5,190 | | | |
| 1941 | | | 4,420 | | 4,420 | 5,320 | 47 | 0 | | | |
| 1942 | | | 4,790 | | 4,790 | 4,300 | 56 | 0 | | 2,900 | 411 |
| 1943 | | | 6,050 | | 6,050 | 5,160 | 111 | 0 | | 1,050 | 327 |
| 1944 | | | 6,300 | | 6,300 | 5,810 | 33 | 0 | | 272 | 338 |
| 1945 | | | 7,130 | | 7,130 | 5,660 | 34 | 0 | | 113 | 148 |
| 1946 | | | 5,610 | | 5,610 | 3,820 | 53 | 2,320 | | 196 | 240 |
| 1947 | | | 5,260 | | 5,260 | 2,180 | 52 | 2,820 | | 204 | 248 |
| 1948 | | | 4,900 | | 4,900 | 3,280 | 57 | 1,000 | | 58 | 126 |
| 1949 | | | 4,450 | | 4,450 | 1,830 | 2 | 1,380 | | | |
| 1950 | | | 5,400 | | 5,400 | 3,210 | 10 | 1,570 | | | |
| 1951 | | | 10,600 | | 10,600 | 4,310 | 9 | 2,580 | | | |
| 1952 | | | 9,390 | | 9,390 | 4,150 | 12 | 5 | 142 | | 693 |
| 1953 | | | 9,580 | | 9,580 | 2,430 | 30 | 9 | 216 | | 1,030 |
| 1954 | | | 8,850 | | 8,850 | 1,010 | 220 | 517 | 137 | | 1,180 |
| 1955 | | | 9,740 | | 9,740 | 1,270 | 513 | 793 | 141 | | 1,270 |
| 1956 | | | 11,000 | | 11,000 | 1,690 | 435 | 1,820 | 225 | | 1,760 |
| 1957 | | | 10,800 | | 10,800 | 3,720 | 655 | 1,240 | 189 | | 1,060 |
| 1958 | | | 6,970 | | 6,970 | 4,250 | 469 | 55 | 151 | | 1,000 |
| 1959 | | | 7,760 | | 7,760 | 3,030 | 8 | 1,080 | 83 | | 1,240 |
| 1960 | | | 7,410 | | 7,410 | 2,410 | 4 | 0 | 49 | | 1,030 |
| 1961 | | | 5,610 | | 5,610 | 2,170 | 15 | 1,020 | 87 | | 1,050 |
| 1962 | | | 3,920 | | 3,920 | 2,200 | 51 | 2,030 | 99 | | 747 |
| 1963 | | | 6,110 | | 6,110 | 1,850 | | 508 | 68 | | 575 |
| 1964 | | | 8,360 | | 8,360 | 1,790 | | | 140 | | 622 |
| 1965 | | | 9,730 | | 9,730 | 1,810 | | | | | |
| 1966 | | | 10,100 | | 10,100 | 2,720 | | | | | |
| 1967 | | | | | | 1,810 | | | | | |
| 1968 | | | | | | 5,440 | | | | | |
| 1969 | | | | | | 0 | | | | | |

## CORUNDUM AND EMERY STATISTICS
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**[All values in metric tons (t) unless otherwise noted]**
**Last modification:  February 18, 2003**

| Year | Corundum production | Corundum and emery production | Emery production | Corundum and emery shipments | Emery shipments | Corundum imports | Corundum and emery imports | Emery imports | Corundum exports | Corundum and emery exports | Emery exports |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1970 | | | | | | 0 | | | | | |
| 1971 | | | 1,440 | | | 0 | | | | | |
| 1972 | | | 2,620 | | | 0 | | | | | |
| 1973 | | | 2,620 | | | 907 | | | | | |
| 1974 | | | 2,290 | | | 1,810 | | | | | |
| 1975 | | | 3,160 | | | 907 | | | | | |
| 1976 | | | | | | 1,810 | | | | | |
| 1977 | | | | | | 1,810 | | | | | |
| 1978 | | | | | | 441 | | | | | |
| 1979 | | | 9,080 | | | 4,540 | | | | | |
| 1980 | | | | | | 0 | | | | | |
| 1981 | | | | | | 0 | | | | | |
| 1982 | | | | | | | | | | | |
| 1983 | | | | | | | | | | | |
| 1984 | | | | | | | | | | | |
| 1985 | | | | | | | | | | | |
| 1986 | | | 2,610 | | | | | | | | |
| 1987 | | | 1,760 | | | | | | | | |
| 1988 | | | 869 | | | | | | | | |
| 1989 | | | | | | | | | | | |
| 1990 | | | | | | | | | | | |
| 1991 | | | | | | | | | | | |
| 1992 | | | | | | | | | | | |
| 1993 | | | | | | | | | | | |
| 1994 | | | | | | | | | | | |
| 1995 | | | | | | | | | | | |
| 1996 | | | | | | | | | | | |
| 1997 | | | | | | | | | | | |
| 1998 | | | | | | | | | | | |
| 1999 | | | | | | | | | | | |
| 2000 | | | | | | | | | | | |

# CORUNDUM AND EMERY STATISTICS
## By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
[All values in metric tons (t) unless otherwise noted]
Last modification:  February 18, 2003

| Year | Corundum apparent consumption | Corundum and emery apparent consumption | Emery apparent consumption | Corundum unit value ($/t) | Corundum and emery unit value ($/t) | Emery unit value ($/t) | Corundum unit value (98$/t) | Corundum and Emery unit value (98$/t) | Emery unit value (98$/t) | Corundum world production | Emery world production |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1900 | | 15,800 | | | 26 | | | 508 | | | |
| 1901 | | 17,000 | | | 37 | | | 722 | | | |
| 1902 | | 11,900 | | | 27 | | | 507 | | | |
| 1903 | | 16,800 | | | 16 | | | 289 | | | |
| 1904 | | 9,940 | | | 33 | | | 596 | | | |
| 1905 | | 14,600 | | | 32 | | | 578 | | | |
| 1906 | | 17,200 | | | 42 | | | 759 | | | |
| 1907 | | 13,400 | 970 | | | 13 | | | 228 | | |
| 1908 | | 9,000 | 607 | | | 14 | | | 255 | | |
| 1909 | | 11,200 | 1,430 | | | 13 | | | 236 | | |
| 1910 | | 30,500 | 933 | | | 16 | | | 281 | | |
| 1911 | | 11,600 | 598 | | | 11 | | | 193 | | |
| 1912 | | 17,600 | 900 | | | 7 | | | 119 | | |
| 1913 | | 18,500 | 868 | | | 6 | | | 99 | 2,580 | 48,900 |
| 1914 | | 13,900 | 440 | | | 6 | | | 98 | 1,180 | 35,900 |
| 1915 | | 9,180 | 2,780 | | | 11 | | | 177 | 690 | 17,200 |
| 1916 | | 8,510 | 13,900 | | | 9 | | | 135 | 3,560 | 33,800 |
| 1917 | 744 | 2,070 | 15,500 | 91 | | 16 | 1,160 | | 204 | 6,140 | 31,300 |
| 1918 | | 8,660 | 9,460 | | | 12 | | | 130 | 5,860 | 22,100 |
| 1919 | | 11,800 | 2,360 | | | 10 | | | 94 | 1,690 | 12,500 |
| 1920 | | 9,160 | 2,110 | | | 10 | | | 81 | 1,210 | 14,000 |
| 1921 | | 6,950 | 277 | | | 8 | | | 73 | 835 | 13,800 |
| 1922 | | 5,560 | 1,330 | | | 13 | | | 126 | 2,020 | 14,800 |
| 1923 | | 11,700 | 2,070 | | | 14 | | | 133 | 2,980 | 24,100 |
| 1924 | 3,020 | 50 | 8,590 | | | 10 | | | 95 | 1,880 | 25,300 |
| 1925 | 1,500 | 122 | 7,700 | | | 8 | | | 75 | 1,910 | 28,000 |
| 1926 | 4,910 | 394 | 4,660 | | | 10 | | | 92 | 5,600 | 32,000 |
| 1927 | 1,150 | 105 | 4,640 | | | 13 | | | 121 | | |
| 1928 | 1,420 | 154 | 6,140 | | | 14 | | | 133 | | 10,000 |
| 1929 | 3,430 | 395 | 6,650 | | | 13 | | | 124 | | |
| 1930 | 2,740 | 272 | 4,360 | | | 12 | | | 118 | | |
| 1931 | 650 | 57 | 2,600 | | | 12 | | | 129 | | |
| 1932 | 171 | 10 | 838 | | | 12 | | | 143 | | |
| 1933 | 940 | 22 | 1,590 | | | 13 | | | 163 | | |
| 1934 | 1,980 | 42 | 3,280 | | | 11 | | | 134 | | |

# CORUNDUM AND EMERY STATISTICS
## By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
[All values in metric tons (t) unless otherwise noted]
Last modification:  February 18, 2003

| Year | Corundum apparent consumption | Corundum and emery apparent consumption | Emery apparent consumption | Corundum unit value ($/t) | Corundum and emery unit value ($/t) | Emery unit value ($/t) | Corundum unit value (98$/t) | Corundum and Emery unit value (98$/t) | Emery unit value (98$/t) | Corundum world production | Emery world production |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1935 | 4,590 | 52 | 4,520 | | | 10 | | | 119 | | |
| 1936 | 4,350 | 177 | 5,940 | | | 10 | | | 117 | | |
| 1937 | 1,890 | 149 | 5,150 | | | 10 | | | 113 | 2,300 | |
| 1938 | 1,900 | 30 | 433 | | | 0 | | | 0 | 1,540 | |
| 1939 | 1,780 | 59 | 2,680 | | | 10 | | | 117 | 2,460 | |
| 1940 | 2,650 | 61 | 6,140 | | | 10 | | | 116 | 3,910 | |
| 1941 | 5,320 | 47 | 4,420 | | | 10 | | | 111 | 6,210 | |
| 1942 | 4,300 | 41 | 4,380 | | | 10 | | | 100 | 7,030 | |
| 1943 | 5,160 | 36 | 5,720 | | | 11 | | | 104 | 5,630 | |
| 1944 | 5,810 | 30 | 5,960 | | | 10 | | | 93 | 5,700 | |
| 1945 | 5,660 | 25 | 6,980 | | | 11 | | | 100 | 10,000 | |
| 1946 | 3,820 | 19 | 7,700 | | | 11 | | | 92 | 8,000 | |
| 1947 | 2,180 | 13 | 7,830 | | | 13 | | | 95 | 8,000 | |
| 1948 | 3,280 | 8 | 5,780 | | | 14 | | | 95 | 8,000 | |
| 1949 | 1,830 | 2 | 5,830 | | | 14 | | | 96 | 9,000 | |
| 1950 | 3,210 | 10 | 6,970 | | | 14 | | | 95 | 9,070 | |
| 1951 | 4,310 | 9 | 13,100 | | | 15 | | | 94 | 9,980 | 7,360 |
| 1952 | 4,010 | 12 | 8,700 | | | 15 | | | 92 | 9,980 | 8,240 |
| 1953 | 2,210 | 30 | 8,560 | | | 15 | | | 91 | 9,070 | |
| 1954 | 868 | 220 | 8,190 | | | 15 | | | 91 | 9,070 | |
| 1955 | 1,130 | 513 | 9,260 | | | 16 | | | 98 | 7,260 | 7,080 |
| 1956 | 1,460 | 435 | 11,100 | | | 16 | | | 96 | 9,980 | 12,000 |
| 1957 | 3,530 | 655 | 11,000 | | | 17 | | | 99 | 9,070 | |
| 1958 | 4,100 | 469 | 6,030 | | | 18 | | | 102 | 9,980 | |
| 1959 | 2,940 | 8 | 7,610 | | | 19 | | | 106 | 7,260 | |
| 1960 | 2,360 | 4 | 6,390 | | | 19 | | | 104 | 8,170 | |
| 1961 | 2,090 | 15 | 5,570 | | | 19 | | | 104 | 7,260 | |
| 1962 | 2,110 | 51 | 5,200 | | | 18 | | | 97 | 3,660 | |
| 1963 | 1,780 | | 6,040 | | | 20 | | | 106 | 6,120 | |
| 1964 | 1,650 | | 7,740 | | | 21 | | | 111 | 8,190 | |
| 1965 | 1,810 | | 9,730 | | | 21 | | | 109 | 9,960 | |
| 1966 | 2,720 | | 10,100 | | | 21 | | | 106 | 9,910 | |
| 1967 | 1,810 | | 0 | | | | | | | 9,790 | |
| 1968 | 5,440 | | 0 | | | | | | | 6,570 | |
| 1969 | 0 | | 0 | | | | | | | 6,790 | |

# CORUNDUM AND EMERY STATISTICS
## By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
[All values in metric tons (t) unless otherwise noted]
Last modification:  February 18, 2003

| Year | Corundum apparent consumption | Corundum and emery apparent consumption | Emery apparent consumption | Corundum unit value ($/t) | Corundum and emery unit value ($/t) | Emery unit value ($/t) | Corundum unit value (98$/t) | Corundum and Emery unit value (98$/t) | Emery unit value (98$/t) | Corundum world production | Emery world production |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1970 | 0 | | 0 | | | | | | | 7,250 | |
| 1971 | 0 | | 1,440 | | | | | | | 7,060 | 86,200 |
| 1972 | 0 | | 2,620 | | | | | | | 7,670 | 86,800 |
| 1973 | 907 | | 2,620 | | | | | | | 7,820 | 99,300 |
| 1974 | 1,810 | | 2,290 | | | | | | | 7,900 | 158,000 |
| 1975 | 907 | | 3,160 | | | | | | | 8,500 | 71,100 |
| 1976 | 1,810 | | 0 | | | | | | | 12,600 | 71,400 |
| 1977 | 1,810 | | 0 | | | | | | | 14,700 | 65,500 |
| 1978 | 441 | | 0 | | | | | | | 17,200 | 8,130 |
| 1979 | 4,540 | | 9,080 | | | 23 | | | 52 | 26,400 | 6,530 |
| 1980 | 0 | | 0 | | | | | | | 29,100 | 49,000 |
| 1981 | 0 | | 0 | | | | | | | 22,400 | 49,100 |
| 1982 | | | 0 | | | | | | | 18,800 | 38,000 |
| 1983 | | | 0 | | | | | | | 14,600 | 29,900 |
| 1984 | | | 0 | | | | | | | 9,220 | 28,100 |
| 1985 | | | 0 | | | | | | | 9,260 | 23,400 |
| 1986 | | | 2,610 | | | | | | | 9,220 | 7,500 |
| 1987 | | | 1,760 | | | | | | | | 9,970 |
| 1988 | | | 869 | | | | | | | | 26,800 |
| 1989 | | | | | | | | | | | 29,500 |
| 1990 | | | | | | | | | | | |
| 1991 | | | | | | | | | | | 35,500 |
| 1992 | | | | | | | | | | | 30,000 |
| 1993 | | | | | | | | | | | 30,000 |
| 1994 | | | | | | | | | | | |
| 1995 | | | | | | | | | | | |
| 1996 | | | | | | | | | | | |
| 1997 | | | | | | | | | | | |
| 1998 | | | | | | | | | | | |
| 1999 | | | | | | | | | | | |
| 2000 | | | | | | | | | | | |

## OTHER NATURAL ABRASIVES STATISTICS
### By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
[All values in metric tons (t) unless otherwise noted]
Last modification: February 18, 2003

| Year | Other natural abrasives imports | Other natural abrasives exports | Other natural abrasives apparent consumption |
|---|---|---|---|
| 1924 | 229 | | 229 |
| 1925 | 175 | | 175 |
| 1926 | 963 | | 963 |
| 1927 | 1,260 | | 1,260 |
| 1928 | 2,410 | | 2,410 |
| 1929 | 3,090 | | 3,090 |
| 1930 | 4,970 | | 4,970 |
| 1931 | 3,740 | | 3,740 |
| 1932 | 1,940 | | 1,940 |
| 1933 | 3,780 | | 3,780 |
| 1934 | 1,480 | | 1,480 |
| 1935 | 1,490 | | 1,490 |
| 1936 | 536 | | 536 |
| 1937 | 846 | | 846 |
| 1938 | 455 | | 455 |
| 1939 | 203 | | 203 |
| 1940 | 208 | | 208 |
| 1941 | 391 | | 391 |
| 1942 | 213 | | 213 |
| 1943 | 86 | | 86 |
| 1944 | 26 | | 26 |
| 1945 | 46 | | 46 |
| 1946 | 86 | | 86 |
| 1947 | 77 | | 77 |
| 1948 | 2 | | 2 |
| 1949 | 0 | | 0 |
| 1950 | 1 | | 1 |
| 1951 | 11 | | 11 |
| 1952 | 1,490 | 32,600 | 1,290 |
| 1953 | 340 | 50,600 | 2,570 |
| 1954 | 4 | 47,500 | 3,850 |
| 1955 | 29 | 59,600 | 5,130 |
| 1956 | 9 | 64,500 | 6,410 |
| 1957 | 20 | 66,700 | 7,690 |
| 1958 | 72 | 10,800 | 8,970 |
| 1959 | 245 | 9,550 | 10,200 |
| 1960 | 194 | 9,390 | 11,500 |
| 1961 | 168 | 10,300 | 12,800 |
| 1962 | 7,390 | 9,720 | 14,100 |
| 1963 | 27,000 | 11,600 | 15,400 |
| 1964 | 16,900 | 12,700 | 4,160 |
| 1965 | 16,600 | 11,900 | 4,610 |
| 1966 | 35,400 | 14,900 | 20,500 |
| 1967 | 14,500 | 12,700 | 1,800 |
| 1968 | 29,900 | 18,400 | 11,600 |
| 1969 | 20,900 | 14,500 | 6,360 |
| 1970 | 13,600 | 15,500 | 6,240 |
| 1971 | 7,260 | 9,590 | 6,130 |
| 1972 | 4,540 | 10,000 | 6,010 |
| 1973 | 11,800 | 16,200 | 5,890 |
| 1974 | 16,300 | 18,000 | 5,770 |

## OTHER NATURAL ABRASIVES STATISTICS
### By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
### [All values in metric tons (t) unless otherwise noted]
### Last modification:  February 18, 2003

| Year | Other natural abrasives imports | Other natural abrasives exports | Other natural abrasives apparent consumption |
|---|---|---|---|
| 1975 | 5,440 | 9,690 | 5,650 |
| 1976 | 5,440 | 15,300 | 5,540 |
| 1977 | 10,900 | 17,600 | 5,420 |
| 1978 | 14,000 | 8,690 | 5,300 |
| 1979 | 15,400 | 4,460 | 10,900 |
| 1980 | 10,800 | 14,400 | 7,840 |
| 1981 | 12,300 | 16,200 | 4,760 |
| 1982 | 6,410 | 4,730 | 1,690 |
| 1983 | 8,920 | 4,450 | 4,470 |
| 1984 | 25,200 | 1,820 | 23,400 |
| 1985 | 28,700 | 884 | 27,800 |
| 1986 | 9,400 | 1,140 | 8,260 |
| 1987 | 15,900 | 1,520 | 14,400 |
| 1988 | 32,200 | 1,580 | 30,600 |
| 1989 | 24,000 | 12,400 | 11,600 |
| 1990 | 38,000 | 13,100 | 24,900 |
| 1991 | 30,000 | 12,600 | 17,400 |
| 1992 | 41,000 | 17,100 | 23,900 |
| 1993 | 57,000 | 13,100 | 43,900 |
| 1994 | | | |
| 1995 | | | |
| 1996 | | | |
| 1997 | | | |
| 1998 | | | |
| 1999 | | | |
| 2000 | | | |

# SPECIAL SILICA STONE STATISTICS
## By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
### [All values in metric tons (t) unless otherwise noted]
### Last modification: February 18, 2003

| Year | Special silica stone production | Special silica stone shipments | Special silica stone imports | Special silica stone exports | Special silica stone apparent consumption | Special silica stone unit value ($/t) | Special silica stone unit value (98$/t) | Special silica stone world production |
|---|---|---|---|---|---|---|---|---|
| 1900 | 502 | | | | 502 | 25 | 488 | |
| 1901 | | | | | | | | |
| 1902 | | | | | | | | |
| 1903 | | | | | | | | |
| 1904 | 16,000 | | | | 16,000 | 11 | 199 | |
| 1905 | 24,800 | | | | 24,800 | 11 | 199 | |
| 1906 | | | | | | | | |
| 1907 | | | | | | | | |
| 1908 | | | | | | | | |
| 1909 | | | | | | | | |
| 1910 | | | | | | | | |
| 1911 | | | | | | | | |
| 1912 | | | | | | | | |
| 1913 | | | | | | | | 45,200 |
| 1914 | 43,800 | 43,800 | | | 43,800 | 20 | 326 | 58,000 |
| 1915 | 38,700 | 38,700 | | | 38,700 | 20 | 323 | 50,400 |
| 1916 | 51,900 | 51,900 | | | 51,900 | 19 | 284 | 53,800 |
| 1917 | 64,700 | 64,700 | | | 64,700 | 22 | 280 | 73,300 |
| 1918 | 71,500 | 71,500 | | | 71,500 | 29 | 313 | 76,200 |
| 1919 | 52,400 | 52,400 | | | 52,400 | 32 | 302 | 91,800 |
| 1920 | 59,500 | 59,500 | 24,200 | | 83,600 | 34 | 277 | 99,600 |
| 1921 | 25,500 | 25,500 | 9,150 | | 34,700 | 55 | 501 | 77,700 |
| 1922 | 27,900 | 27,900 | 14,600 | | 42,400 | 45 | 437 | 77,300 |
| 1923 | 47,500 | 47,500 | 14,500 | | 62,000 | 42 | 400 | 95,500 |
| 1924 | 37,900 | 37,900 | 18,800 | | 56,700 | 52 | 496 | 105,000 |
| 1925 | 38,200 | 38,200 | 17,500 | | 55,700 | 53 | 494 | 108,000 |
| 1926 | 41,900 | 41,900 | 16,400 | | 58,300 | 52 | 479 | 82,200 |
| 1927 | 33,000 | 33,000 | 16,300 | | 49,200 | 56 | 525 | |
| 1928 | 36,700 | 36,700 | 16,100 | | 52,900 | 50 | 477 | |
| 1929 | 30,100 | 30,100 | 14,900 | | 45,000 | 51 | 486 | |
| 1930 | 20,700 | 20,700 | 7,240 | | 27,900 | 46 | 449 | |
| 1931 | 10,100 | 10,100 | 6,400 | | 16,500 | 45 | 483 | |
| 1932 | 8,140 | 8,140 | 3,770 | | 11,900 | 40 | 476 | |
| 1933 | 16,800 | 16,800 | 4,680 | | 21,400 | 35 | 439 | |
| 1934 | 11,800 | 11,800 | 5,100 | | 16,900 | 47 | 572 | |
| 1935 | 13,600 | 13,600 | 8,610 | | 22,200 | 45 | 535 | |
| 1936 | 12,600 | 12,600 | 9,830 | | 22,500 | 49 | 575 | |
| 1937 | 13,900 | 13,900 | 13,100 | | 27,100 | 49 | 555 | |
| 1938 | 6,090 | 6,090 | 8,120 | | 14,200 | 61 | 705 | |
| 1939 | 10,000 | 10,000 | 11,700 | | 21,800 | 54 | 633 | |
| 1940 | 12,100 | 12,100 | 3,220 | | 15,300 | 41 | 477 | |
| 1941 | 29,500 | 29,500 | 1,830 | | 31,300 | 28 | 310 | |
| 1942 | 29,700 | 29,700 | 832 | 15,700 | 14,900 | 28 | 280 | |
| 1943 | 22,800 | 22,800 | 726 | 17,600 | 5,930 | 30 | 283 | |
| 1944 | 17,600 | 17,600 | 941 | 22,200 | 7,230 | 32 | 296 | |
| 1945 | 18,700 | 18,700 | 1,460 | 26,900 | 8,520 | 35 | 317 | |
| 1946 | 17,000 | 17,000 | 6,550 | 26,800 | 9,820 | 38 | 318 | |
| 1947 | 16,400 | 16,400 | 10,600 | 33,800 | 11,100 | 39 | 285 | |
| 1948 | 12,000 | 12,000 | 10,500 | 28,600 | 12,400 | 46 | 311 | |
| 1949 | 7,300 | 7,300 | 7,010 | 639 | 13,700 | 49 | 336 | |

## SPECIAL SILICA STONE STATISTICS
### By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
**[All values in metric tons (t) unless otherwise noted]**
**Last modification:  February 18, 2003**

| Year | Special silica stone production | Special silica stone shipments | Special silica stone imports | Special silica stone exports | Special silica stone apparent consumption | Special silica stone unit value ($/t) | Special silica stone unit value (98$/t) | Special silica stone world production |
|---|---|---|---|---|---|---|---|---|
| 1950 | 7,180 | 7,180 | 31,900 | 466 | 38,600 | 49 | 331 | |
| 1951 | 9,110 | 9,110 | 16,400 | 610 | 24,800 | 52 | 326 | |
| 1952 | 7,730 | 7,730 | 7,340 | 443 | 14,600 | 53 | 326 | |
| 1953 | 5,620 | 5,620 | 8,680 | 464 | 13,800 | 60 | 366 | |
| 1954 | 5,640 | 5,640 | 4,560 | 383 | 9,820 | 57 | 345 | |
| 1955 | 4,470 | 4,470 | 7,080 | 506 | 11,100 | 59 | 359 | |
| 1956 | 5,610 | 5,610 | 8,610 | 447 | 13,800 | 73 | 437 | |
| 1957 | 5,300 | 5,300 | 10,500 | 388 | 15,400 | 62 | 360 | |
| 1958 | 3,650 | 3,650 | 7,840 | 347 | 11,100 | 84 | 474 | |
| 1959 | 3,330 | 3,330 | 12,800 | 518 | 15,600 | 95 | 532 | |
| 1960 | 2,300 | 2,300 | 13,200 | 459 | 15,100 | 105 | 578 | |
| 1961 | 2,260 | 2,260 | 11,000 | 203 | 13,100 | 105 | 572 | |
| 1962 | 2,410 | 2,410 | 11,500 | 193 | 13,700 | 108 | 583 | |
| 1963 | 2,440 | 2,440 | 35 | 100 | 2,380 | 104 | 554 | |
| 1964 | 2,890 | 2,890 | 0 | 285 | 2,610 | 101 | 531 | |
| 1965 | 3,270 | 3,270 | 0 | | 3,270 | 132 | 683 | |
| 1966 | 3,450 | 3,450 | 907 | | 4,360 | 149 | 750 | |
| 1967 | 2,450 | 2,450 | 0 | | 2,450 | 234 | 1,140 | |
| 1968 | 2,850 | 2,850 | 0 | | 2,850 | 221 | 1,040 | |
| 1969 | 3,000 | 3,000 | 0 | | 3,000 | 200 | 888 | |
| 1970 | 2,840 | 2,840 | 0 | | 2,840 | 234 | 983 | |
| 1971 | 2,130 | 2,130 | 3,630 | | 5,760 | 264 | 1,060 | |
| 1972 | 2,940 | 2,940 | 0 | | 2,940 | 228 | 889 | |
| 1973 | 3,140 | 3,140 | 0 | | 3,140 | 212 | 778 | |
| 1974 | 2,840 | 2,840 | 0 | | 2,840 | 252 | 833 | |
| 1975 | 2,680 | 2,680 | 0 | | 2,680 | 396 | 1,200 | |
| 1976 | 2,450 | 2,450 | 0 | | 2,450 | 574 | 1,640 | |
| 1977 | 2,000 | 2,000 | 0 | | 2,000 | 1,620 | 4,360 | |
| 1978 | 612 | 612 | 0 | | 612 | 3,820 | 9,550 | |
| 1979 | 539 | 539 | 0 | | 539 | 3,270 | 7,340 | |
| 1980 | 572 | 572 | 0 | | 572 | 3,380 | 6,690 | |
| 1981 | 2,270 | 474 | 0 | | 2,270 | 483 | 866 | |
| 1982 | 1,170 | 647 | 0 | | 1,170 | 474 | 801 | |
| 1983 | 999 | 546 | 0 | | 999 | 482 | 789 | |
| 1984 | 1,170 | 620 | 0 | | 1,170 | 515 | 808 | |
| 1985 | 1,050 | 402 | 0 | | 1,050 | 490 | 742 | |
| 1986 | 973 | 463 | 0 | | 973 | 515 | 766 | |
| 1987 | 1,380 | 598 | 907 | | 2,290 | 355 | 509 | |
| 1988 | 1,890 | 371 | 0 | | 1,890 | 299 | 412 | |
| 1989 | 898 | 377 | | | 898 | 164 | 216 | |
| 1990 | 3,710 | 450 | | | 3,710 | 62 | 77 | |
| 1991 | 2,210 | 272 | | | 2,210 | 73 | 87 | |
| 1992 | 1,730 | 340 | | | 1,730 | 138 | 160 | |
| 1993 | 528 | 267 | | | 528 | 455 | 513 | |
| 1994 | 328 | 487 | | | 328 | 674 | 741 | |
| 1995 | 501 | 419 | | | 501 | 539 | 576 | |
| 1996 | 854 | 410 | | | 854 | 260 | 270 | |
| 1997 | 843 | 445 | | | 843 | 266 | 270 | |
| 1998 | 649 | 438 | | | 649 | 284 | 284 | |
| 1999 | 697 | 475 | | | 697 | 263 | 257 | |

# SPECIAL SILICA STONE STATISTICS
## By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
### [All values in metric tons (t) unless otherwise noted]
### Last modification:  February 18, 2003

| Year | Special silica stone production | Special silica stone shipments | Special silica stone imports | Special silica stone exports | Special silica stone apparent consumption | Special silica stone unit value ($/t) | Special silica stone unit value (98$/t) | Special silica stone world production |
|------|------|------|------|------|------|------|------|------|
| 2000 | 553 | 312 | | | 553 | 286 | 271 | |

## TRIPOLI STATISTICS
### By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
**[All values in metric tons (t) unless otherwise noted]**
**Last modification:  Februrary 18, 2003**

| Year | Tripoli production | Tripoli shipments | Tripoli apparent consumption | Tripoli unit value ($/t) | Tripoli unit value (98$/t) | Tripoli world production |
|------|------|------|------|------|------|------|
| 1913 | 18,900 | 18,900 | 18,900 | 12 | 198 | 19,500 |
| 1914 | 15,600 | 15,600 | 15,600 | 9 | 147 | 16,200 |
| 1915 | 27,900 | 27,900 | 27,900 | 5 | 81 | 28,100 |
| 1916 | 39,200 | 39,200 | 39,200 | 5 | 75 | 39,800 |
| 1917 | 23,600 | 23,600 | 23,600 | 14 | 178 | 24,200 |
| 1918 | 18,100 | 18,100 | 18,100 | 11 | 119 | 18,600 |
| 1919 | 22,000 | 22,000 | 22,000 | 8 | 76 | 22,700 |
| 1920 | 36,500 | 36,500 | 36,500 | 16 | 130 | 37,400 |
| 1921 | 11,200 | 11,200 | 11,200 | 19 | 173 | 12,000 |
| 1922 | 27,400 | 27,400 | 27,400 | 12 | 117 | 27,900 |
| 1923 | 24,600 | 24,600 | 24,600 | 16 | 152 | 25,500 |
| 1924 | 25,800 | 25,800 | 25,800 | 15 | 143 | 26,300 |
| 1925 | 26,700 | 26,700 | 26,700 | 16 | 150 | 27,500 |
| 1926 | 28,500 | 28,500 | 28,500 | 18 | 165 | 29,300 |
| 1927 | 23,700 | 23,700 | 23,700 | 19 | 178 | |
| 1928 | 30,900 | 30,900 | 30,900 | 18 | 171 | |
| 1929 | 34,500 | 34,500 | 34,500 | 16 | 152 | |
| 1930 | 29,400 | 29,400 | 29,400 | 17 | 167 | |
| 1931 | 24,200 | 24,200 | 24,200 | 13 | 139 | |
| 1932 | 13,400 | 13,400 | 13,400 | 17 | 202 | |
| 1933 | 18,900 | 18,900 | 18,900 | 19 | 238 | |
| 1934 | 18,600 | 18,600 | 18,600 | 18 | 219 | |
| 1935 | 24,800 | 24,800 | 24,800 | 15 | 179 | |
| 1936 | 25,800 | 25,800 | 25,800 | 15 | 176 | |
| 1937 | 31,700 | 31,700 | 31,700 | 14 | 159 | |
| 1938 | 20,100 | 20,100 | 20,100 | 16 | 185 | |
| 1939 | 30,400 | 30,400 | 30,400 | 15 | 176 | |
| 1940 | 27,400 | 27,400 | 27,400 | 13 | 151 | |
| 1941 | 26,600 | 26,600 | 26,600 | 16 | 177 | |
| 1942 | 15,900 | 15,900 | 15,900 | 17 | 170 | |
| 1943 | 13,500 | 13,500 | 13,500 | 18 | 170 | |
| 1944 | 16,700 | 16,700 | 16,700 | 18 | 167 | |
| 1945 | 16,600 | 16,600 | 16,600 | 19 | 173 | |
| 1946 | 26,300 | 26,300 | 26,300 | 21 | 175 | |
| 1947 | 31,400 | 31,400 | 31,400 | 24 | 175 | |
| 1948 | 24,400 | 24,400 | 24,400 | 29 | 196 | |
| 1949 | 23,200 | 23,200 | 23,200 | 30 | 205 | |
| 1950 | 39,700 | 39,700 | 39,700 | 30 | 203 | |
| 1951 | 34,000 | 34,000 | 34,000 | 33 | 206 | |
| 1952 | 32,200 | 32,200 | 32,200 | 32 | 196 | |
| 1953 | 32,800 | 32,800 | 32,800 | 35 | 213 | |
| 1954 | 37,800 | 37,800 | 37,800 | 39 | 236 | |
| 1955 | 45,100 | 42,600 | 45,100 | 5 | 31 | |
| 1956 | 40,800 | 39,300 | 40,800 | 5 | 30 | |
| 1957 | 46,000 | 40,200 | 46,000 | 4 | 23 | |
| 1958 | 42,700 | 38,200 | 42,700 | 4 | 23 | |
| 1959 | 48,100 | 43,200 | 48,100 | 5 | 28 | |
| 1960 | 52,400 | 47,100 | 52,400 | 5 | 28 | |
| 1961 | 49,600 | 44,100 | 49,600 | 5 | 27 | |
| 1962 | 56,000 | 47,800 | 56,000 | 4 | 22 | |

# TRIPOLI STATISTICS
## By Thomas D. Kelly, Thomas P. Dolley, and Donald W. Olson
### [All values in metric tons (t) unless otherwise noted]
### Last modification:  Februrary 18, 2003

| Year | Tripoli production | Tripoli shipments | Tripoli apparent consumption | Tripoli unit value ($/t) | Tripoli unit value (98$/t) | Tripoli world production |
|---|---|---|---|---|---|---|
| 1963 | 60,500 | 49,700 | 60,500 | 4 | 21 | |
| 1964 | 58,600 | 53,100 | 58,600 | 5 | 26 | |
| 1965 | 64,500 | 58,800 | 64,500 | 6 | 31 | |
| 1966 | 60,000 | 55,200 | 60,000 | 5 | 25 | |
| 1967 | 64,400 | 55,300 | 64,400 | 6 | 29 | |
| 1968 | 77,600 | 64,800 | 77,600 | 10 | 47 | |
| 1969 | 76,800 | 63,700 | 76,800 | 10 | 44 | |
| 1970 | 61,800 | 55,300 | 61,800 | 8 | 34 | |
| 1971 | 68,200 | 60,500 | 68,200 | 8 | 32 | |
| 1972 | 79,700 | 67,900 | 79,700 | 10 | 39 | |
| 1973 | 92,100 | 81,600 | 92,100 | 10 | 37 | |
| 1974 | 77,200 | 78,000 | 77,200 | 8 | 26 | |
| 1975 | 73,100 | 61,900 | 73,100 | 8 | 24 | |
| 1976 | 113,000 | 104,000 | 113,000 | 7 | 20 | |
| 1977 | 114,000 | 105,000 | 114,000 | 7 | 19 | |
| 1978 | 125,000 | 104,000 | 125,000 | 7 | 18 | |
| 1979 | 116,000 | 105,000 | 116,000 | 7 | 16 | |
| 1980 | 110,000 | 90,000 | 110,000 | 6 | 12 | |
| 1981 | 97,400 | 82,900 | 97,400 | 6 | 11 | |
| 1982 | 102,000 | 82,700 | 102,000 | 6 | 10 | |
| 1983 | 101,000 | 93,600 | 101,000 | 6 | 10 | |
| 1984 | 113,000 | 96,800 | 113,000 | 7 | 11 | |
| 1985 | 109,000 | 98,700 | 109,000 | 8 | 12 | |
| 1986 | 106,000 | 100,000 | 106,000 | 9 | 13 | |
| 1987 | 104,000 | 97,800 | 104,000 | 9 | 13 | |
| 1988 | 99,900 | 95,000 | 99,900 | 9 | 12 | |
| 1989 | 105,000 | 89,300 | 105,000 | 24 | 32 | |
| 1990 | 94,400 | 80,600 | 94,400 | 34 | 42 | |
| 1991 | 88,600 | 73,600 | 88,600 | 37 | 44 | |
| 1992 | 84,900 | 76,200 | 84,900 | 38 | 44 | |
| 1993 | 93,900 | 78,300 | 93,900 | 37 | 42 | |
| 1994 | 88,700 | 82,300 | 88,700 | 38 | 42 | |
| 1995 | 79,700 | 80,100 | 79,700 | 38 | 41 | |
| 1996 | 98,000 | 79,600 | 98,000 | 42 | 44 | |
| 1997 | 81,300 | 81,300 | 81,300 | 202 | 205 | |
| 1998 | 79,600 | 79,600 | 79,600 | 212 | 212 | |
| 1999 | 84,900 | 84,900 | 84,900 | 238 | 233 | |
| 2000 | 72,000 | 72,000 | 72,000 | 221 | 209 | |

## Natural Abrasives Worksheet Notes

**Data Sources**
Sources of data for the natural abrasives worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey—Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR). The years of publication and corresponding years of data coverage are listed in the References section below. Blank cells in the worksheet indicate that data either were not available or were withheld from publication because they are proprietary.

## Corundum and Emery

Corundum and emery data were reported separately for some years and combined for some years. The column headings on the corundum and emery worksheet indicate the manner in which the data were reported.

**Production**
Corundum production datum for the year 1917 represents the total quantity of corundum that was produced in the United States. Production data for the years 1943–44 were withheld because they were proprietary.

Corundum and emery production data for the years 1900–06 represent the total quantities of combined corundum and emery that were produced annually in the United States.

Emery production data for the years 1907–88 represent the total quantities of emery that were produced annually in the United States. For the years 1967–70, 1976–78, and 1980–84, production data were withheld because they are proprietary.

**Imports**
Corundum import data for the years 1924–81 represent the total quantities of crude corundum ore and ground corundum grains that were imported into the United States for consumption purposes.

Corundum and emery import data for the years 1900–23 represent the total quantities of corundum and emery that were imported into the United States for consumption purposes. Corundum and emery import data for the years 1924–62 represent the summed quantities of corundum and emery that were imported into the United States for consumption purposes but were not delineated separately as either a corundum or emery import.

Emery import data for the years 1924–63 represent the total quantities of crude emery ore, ground emery grains, and emery wheels and files that were imported into the United States for consumption purposes.

**Exports**
Corundum export data for the years 1952–64 represent the total quantities of corundum that were exported from the United States to foreign recipients.

Corundum and emery export data for the years 1942–48 represent the summed quantities of corundum and emery that were exported from the United States to foreign recipients but were not delineated separately as either a corundum or emery export.

Emery export data for the years 1942–64 represent the total quantities of emery that were exported from the United States to foreign recipients.

**Apparent Consumption**
Apparent consumption data for corundum for the years 1917 and 1924–81 represent the total estimated quantities of corundum that were consumed annually within the United States. Apparent consumption data for corundum for the years 1917 and 1924–81 were estimated by using the following formula:

APPARENT CONSUMPTION = PRODUCTION + IMPORTS – EXPORTS.

Apparent consumption data for corundum and emery for the years 1900–62 represent the total estimated summed quantities of corundum and emery that were consumed annually within the United States. Apparent consumption data for corundum and emery for the years 1900–62 were estimated by using the following formula:

APPARENT CONSUMPTION = PRODUCTION + IMPORTS – EXPORTS.

For the years 1942–48, estimates of apparent consumption yielded negative values. To better estimate apparent consumption for these years, apparent consumption data were interpolated from the apparent consumption data series.

Apparent consumption data for emery for the years 1907–88 represent the total estimated quantities of emery that were consumed annually within the United States.  Apparent consumption data for emery for the years 1907–88 were estimated by using the following formula:

$$\text{APPARENT CONSUMPTION} = \text{PRODUCTION} + \text{IMPORTS} - \text{EXPORTS}.$$

**Unit Value ($/t)**
Unit value datum for corundum for the year 1917 was estimated by dividing the total value of domestically produced corundum by the total quantity of domestically produced corundum.

Unit value data for corundum and emery for the years 1900–06 were estimated by dividing the total value of domestically produced corundum and emery by the total quantity of domestically produced corundum and emery.

Unit value data for emery for the years 1907–66 and 1979 were estimated by dividing the total value of domestically produced emery by the total quantity of domestically produced emery.  For the years 1967–70, 1976–78, and 1980–84, production data were withheld because they are proprietary.  For the years 1971–75 and 1985–88, unit value could not be estimated because production value was not available.

**Unit Value ($98/t)**
The Consumer Price Index conversion factor, with 1998 as the base year, is used to adjust unit value in current U.S. dollars to the unit value in constant 1998 U.S. dollars.

**World Production**
World production data for corundum for the years 1913–26 include U.S. production data.  World production data for corundum for the years 1937–86 do not include U.S. production data.

World production data for emery for the years 1913–26 include U.S. production data.  World production data for emery for the years 1928, 1951–52, 1955–56, 1971–89, and 1991–93 do not include U.S. production data.

## Other Natural Abrasives

**Imports**
Import data for other (miscellaneous) natural abrasives for the years 1924–93 represent the total summed quantities of burrstones, corundum, diatomaceous earth, emery, flint, garnet, rottenstone, tripoli, and other natural abrasive materials that were imported into the United States for consumption purposes, but were not delineated separately as individual commodities.

**Exports**
Export data for other miscellaneous natural abrasives for the years 1952–93 represent the total summed quantities of corundum, diatomaceous earth, emery, pumice, and other natural abrasive materials that were exported from the United States, but were not delineated separately as individual commodities.

**Apparent Consumption**
Apparent consumption data for other miscellaneous natural abrasives for the years 1924–93 represent the total estimated quantities of various miscellaneous natural abrasives that were consumed annually within the United States.  Apparent consumption data for various miscellaneous natural abrasives were estimated by using the following formula:

$$\text{APPARENT CONSUMPTION} = \text{IMPORTS} - \text{EXPORTS}.$$

For the years 1952–62, 1970–77, and 1980–81, estimates of apparent consumption yielded negative statistical values.  To better estimate apparent consumption for these years, apparent consumption data were interpolated from the apparent consumption data series.

## Special Silica Stone

**Production**
Special silica stone production data for the years 1900, 1904–05, and 1914–2000 represent the total quantities of special silica stones that were produced annually in the United States.  For the years 1914–80, domestic production was equal to domestic shipments.

**Shipments**
Special silica stone shipment data for the years 1914–2000 represent the total quantities of special silica stones that were shipped to domestic recipients.  For the years 1914–80, domestic production was equal to domestic shipments.

**Imports**
Special silica stone import data for the years 1920–88 represent the total quantities of special silica stones that were imported into the United States for consumption purposes.

**Exports**
Special silica stone export data for the years 1942–64 represent the total quantities of special silica stones that were exported from the United States to foreign recipients.

**Apparent Consumption**
Apparent consumption data for special silica stones for the years 1900, 1904–05, and 1914–2000 represent the total estimated quantities of special silica stones that were consumed annually within the United States. Apparent consumption data for special silica stones for the years 1900, 1904–05, and 1914–2000 were estimated by using the following formula:

APPARENT CONSUMPTION = PRODUCTION + IMPORTS – EXPORTS.

For the years 1944–48, estimates of apparent consumption yielded negative statistical values. To better estimate apparent consumption for these years, apparent consumption data were interpolated from the apparent consumption data series.

**Unit Value ($/t)**
Unit value data for special silica stones for the years 1900, 1904–05, and 1914–2000 were estimated by dividing the total value of domestically produced special silica stones by the total quantity of domestically produced special silica stones.

**Unit Value ($98/t)**
The Consumer Price Index conversion factor, with 1998 as the base year, is used to adjust unit value in current U.S. dollars to the unit value in constant 1998 U.S. dollars.

**World Production**
World production data for special silica stones for the years 1913–26 includes U.S. production data.

## Tripoli

**Production**
Tripoli production data for the years 1913–2000 represent the total quantities of tripoli that were produced annually in the United States. For the years 1913–54 and 1997–2000, domestic production was equal to domestic shipments.

**Shipments**
Tripoli shipment data for the years 1913–2000 represent the total quantities of tripoli that were shipped to domestic recipients. For the years 1913–54 and 1997–2000, domestic production was equal to domestic shipments.

**Apparent Consumption**
Apparent consumption data for tripoli for the years 1913–2000 represent the total estimated quantities of tripoli that were consumed annually within the United States. Apparent consumption data for tripoli for the years 1913–2000 were estimated by using the following formula:

APPARENT CONSUMPTION = PRODUCTION.

**Unit Value ($/t)**
Unit value data for tripoli for the years 1913–2000 were estimated by dividing the total value of domestically produced tripoli by the total quantity of domestically produced tripoli. The increase in unit value for the years 1997–2000 occurs because, for those years, production data were not available and shipment data were used to estimate unit value.

**Unit Value ($98/t)**
The Consumer Price Index conversion factor, with 1998 as the base year, is used to adjust unit value in current U.S. dollars to the unit value in constant 1998 U.S. dollars.

**World Production**
World production data for tripoli for the years 1913–26 includes U.S. production data.

# Total Natural Abrasives

## Production
Production data for the years 1900–2000 were recorded from the MR and the MYB. Production data for the years 1900–2000 represent the total summed quantities of corundum, emery, special silica stones, and tripoli that were produced annually in the United States.

## Imports
Import data for the years 1900–93 were recorded from the MR and the MYB. Import data for the years 1900–93 represent the total summed quantities of corundum, emery, special silica stones, and other miscellaneous natural abrasives that were imported into the United States for consumption purposes.

## Exports
Export data for the years 1942–93 were recorded from the MYB. Export data for the years 1942–93 represent the total summed quantities of corundum, emery, special silica stones, and other miscellaneous natural abrasives that were exported from the United States to foreign recipients.

## Apparent Consumption
Apparent consumption data for the years 1900–2000 represent the total estimated quantities of natural abrasives that were consumed annually in the United States. Apparent consumption was estimated by summing the estimated apparent consumptions for corundum and emery, other natural abrasives, special silica stone and tripoli.

## Unit value ($/t)
Unit value data is defined as the value of 1 metric ton (t) of natural abrasives apparent consumption. Unit value data for the years 1900–2000 were estimated as the weight-averaged value of corundum, corundum and emery, emery, special silica stone products, and tripoli.

## Unit Value ($98/t)
The Consumer Price Index conversion factor, with 1998 as the base year, is used to adjust unit value in current U.S. dollars to the unit value in constant 1998 U.S. dollars.

## World Production
World production data for the years 1913–2000 were recorded from the MR and the MYB. World production data for the years 1913–2000 represent the total summed quantities of corundum, emery, special silica stones, and tripoli that were produced annually throughout the world. For the years 1913–26, U.S. production was included as a constituent of the reported world production data for corundum, emery, special silica stone products, and tripoli. For the years 1927–2000, U.S. production was not included as a constituent of the reported world production data for corundum, emery, special silica stone products, and tripoli in the MR and MYB statistics. Therefore, for the years 1927–2000, total U.S. production data were added to the total world production data of corundum, emery, special silica stone products, and tripoli presented in the natural abrasives table.

## References
U.S. Bureau of Mines, 1927–33, Mineral Resources of the United States, 1924–31.
U.S. Bureau of Mines, 1933–96, Minerals Yearbook, 1932–94.
U.S. Geological Survey, 1901–27, Mineral Resources of the United States, 1900–23.
U.S. Geological Survey, 1997–2002, Minerals Yearbook, v. I, 1995–2000.

**For more information, please contact:**

**Thomas P. Dolley**
**USGS Silica Commodity Specialist**
**(703) 648-7710**
**tdolley@usgs.gov**

**Donald W. Olson**
**USGS Abrasives Commodity Specialist**
**(703) 648-7721**
**dolson@usgs.gov**

**Thomas D. Kelly**
**Minerals and Materials Analysis Section, USGS**
**(303) 236-8747 x 269**
**kellyt@usgs.gov**